AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A vaccine for the treatment of a disease caused by a pathogenic *Neisseria*, the vaccine comprising ~~an~~ at least one immunogenic component, said immunogenic component being an epitope on a *Neisseria* lipopolysaccharide inner core characterized by the presence of a phosphoethanolamine moiety linked to a 3, 6, 7, or a combination thereof, position of HepII of the inner core, ~~based on the inner core of a *Neisseria* lipopolysaccharide, LPS,~~ wherein said vaccine ~~and being~~ is capable of eliciting ~~functional~~ protective and/or immunoprophylactic antibodies against a ~~majority of the strains within the species of the pathogenic *Neisseria*~~pathogenic Neisseria strain.

2. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 1, wherein ~~the~~ said immunogenic component is capable of eliciting ~~functional~~protective and/or immunoprophylactic antibodies against at least 60% of ~~the strains within the species of the pathogenic *Neisseria*~~ pathogenic Neisseria strains.

3. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 2, wherein ~~the~~ said immunogenic component is capable of eliciting ~~functional~~protective and/or immunoprophylactic antibodies against at least 70% of ~~the strains within the species of the pathogenic *Neisseria*~~ pathogenic Neisseria strains.

4. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 1, wherein the immunogenic component is substantially free from outer core lipopolysaccharide.

5. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 1, wherein the species of the pathogenic *Neisseria* is *Neisseria meningitidis*.

6. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 5, wherein the antibodies are elicited by and specifically recognize an [[the]] immunogenic component of [[in]] at least 50 % of group B strains *of Neisseria meningitidis.*

7. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 5, wherein the antibodies are elicited by and specifically recognize an [[the]] immunogenic component of [[in]] at least 60% of group B strains of *Neisseria meningitidis.*

8. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 5, wherein the antibodies are elicited by and specifically recognize an [[the]] immunogenic component of [[in]] at least 70% of group B strains of *Neisseria meningitidis*.

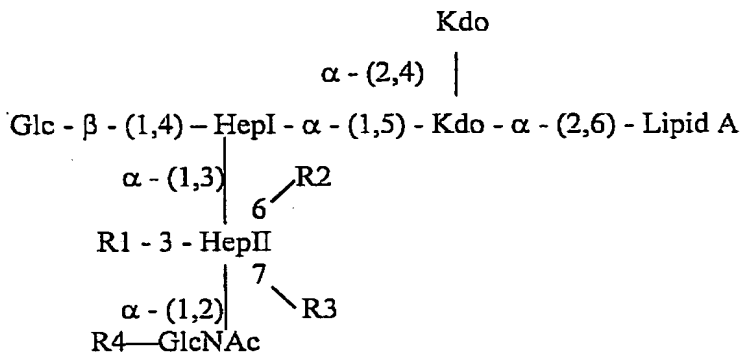
9. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 1, wherein the immunogenic component comprises [[of]] or consists of an epitope ~~which is a part or all of the inner core structure of a~~ of said *Neisseria* LPS inner core, is ~~derived~~ purified from this inner core, is a synthetic version of the inner core, or is a ~~functional~~ structural equivalent thereof.

10. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 1, wherein the immunogenic component is an epitope on the LPS inner core characterized by the presence of a phosphoethanolamine moiety linked to the 3-position at HepII of the inner core, or is a ~~functional~~ structural equivalent thereof.

11. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 1, wherein said immunogenic component is an epitope on the LPS inner core which comprises a glucose residue at HepI.

12. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 1 or 2, wherein the immunogenic component is an epitope on the LPS inner core which comprises an N-acetyl glucosamine at HepII of the inner core LPS.

13. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 1, wherein the inner core LPS consists of an inner core oligosaccharide attached to lipid A, with the general formula as shown:



where R1 is a substituent at the 3-position of HepII, and is hydrogen or Glc-α-(1, or phosphoethanolamine; R2 is a substituent at the 6-position of HepII, and is hydrogen or phosphoethanolamine; R3 is a substituent at the 7-position of HepII, and is hydrogen or phosphoethanolamine, and R4 is acetyl or hydrogen at the 3-position, 4-position or 6-position of the GlcNAc residue, or any combination thereof; and where Glc is D-glucopyranose; Kdo is 3-deoxy-D-*manno*-2-octulosonic acid; Hep is L-*glycero*-D-

manno-heptose, and G1cNAc is 2-acetamido-2-deoxy-D-glucopyranose.

14. (Currently Amended) ~~A vaccine according to claim 1~~, A vaccine for the treatment of a disease caused by a pathogenic *Neisseria*, the vaccine comprising at least one immunogenic component wherein said immunogenic component is reactive with ~~the B5~~ a monoclonal antibody produced by the hybridoma deposited under accession number IDAC 260900-1, wherein said vaccine is capable of eliciting protective and/or immunoprophylactic antibodies against a pathogenic Neisseria strain.

15. (Currently Amended) The vaccine of claim 1, ~~A vaccine comprising a few immunogenic component[[s]] based on the inner core of a *Neisseria* lipopolysaccharide, LPS, and being capable of eliciting functional antibodies against a majority of the strains within the species of the pathogenic *Neisseria*~~, further comprising a second immunogenic component, said second immunogenic component being an epitope on a *Neisseria* lipopolysaccharide inner core characterized by the presence of a phosphoethanolamine moiety linked to a 3, 6, 7, or a combination thereof, position of HepII of the inner core, wherein said phosphoethanolamine moiety of said second immunogenic component is linked to a different position of said HepII of the inner core than said phosphoethanolamine moiety of the immunogenic component of claim 1.

16. (Currently Amended) ~~A vaccine according to claim 15~~ The vaccine of claim 1, ~~and including an immunogenic component as defined in any of claims 1 to 14~~ wherein said immunogenic componenet has two phosphoethanolamine moieties located at two positions on said HepII, a first said position being the 3- position, and a second said position being the 6- or the 7- position.

17. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 15, wherein ~~the~~ said ~~few immunogenic components~~ vaccine elicits ~~functional~~ protective and/or immunoprophylactic antibodies against [[in]] at least 85% ~~of the strains within the species of the pathogenic *Neisseria*~~pathogenic *Neisseria* strains.

18. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 17, wherein ~~the~~ said ~~few immunogenic components~~ vaccine elicits ~~functional~~protective and/or immunoprophylactic antibodies against [[in]] at least 95% ~~of the strains within the species of the pathogenic *Neisseria*~~pathogenic *Neisseria* strains.

19. Cancelled.

20. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 1, wherein [[the]] said immunogenic component ~~element of the vaccine~~ is an epitope accessible on [[the]] a bacterium in the presence of a lipopolysaccharide outer core of a bacterial capsule.

21. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 1, wherein said immunogenic element is ~~comprising one or more immunogen components which are~~ capable of stimulating antibodies which are opsonic for pathogenic *Neisseria*.

22. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 1 for the treatment of a condition characterized by *Neisseria meningitidis* infection.

23. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 22 for the treatment of a condition characterized by *Neisseria meningitidis* group B infection.

24. (Currently Amended) ~~A vaccine according to~~Use of the vaccine of claim 1, for the treatment of meningitis, septicaemia or pneumonia or any other manifestation of systemic or local disease occasioned by a *Neisseria meningitidis* strain that is specifically recognized by antibodies elicted by said vaccine.

25. (Currently Amended) Use of the vaccine of ~~A vaccine according to~~ claim 1 for the ~~prevention~~ treatment of urethritis, salpingitis, cervicitis, proctitis, pharyngitis, pelvic inflammatory disease or any other manifestation of systemic or local disease occasioned by a *Neisseria gonorrhoeae* strain that is specifically recognized by antibodies elicted by said vaccine.

26. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 1, which is a conjugated vaccine.

27. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 1, ~~which is derived from a~~ wherein said *Neisseria* lipopolysaccharide inner core is a commensal *Neisseria* inner core.

28. (Currently Amended) ~~A vaccine according to claim~~The vaccine of claim 27, wherein the commensal *Neisseria* is *Neisseria lactamica*.

29-41. Cancelled.

42. (New) A vaccine for the treatment of disease caused by pathogenic *Neisseria*, comprising a *galE* mutant *Neisseria* bacterium, wherein said vaccine elicits protective and/or immunoprophylactic antibodies against ~~a majority of~~ pathogenic Neisseria strains.

43. (New) The vaccine of claim 42, wherein said *Neisseria* bacterium is *N. meningitidis.*

44. (New) The vaccine of claim 42, wherein said *N. meningitidis* is a group B *N. meningitidis.*

45. (New) The vaccine of claim 42, wherein said *N. meningitidis* bacterium comprises a lipopolysaccharide inner core characterized by the presence of a phosphoethanolamine moiety linked to a 3, 6, 7, or a combination thereof, position of HepII of the inner core.

46. (New) The vaccine of claim 42, wherein said *N. meningitidis* bacterium is killed or inactivated.

47. (New) The vaccine of claim 42, wherein said *N. meningitidis* bacterium is attenuated.